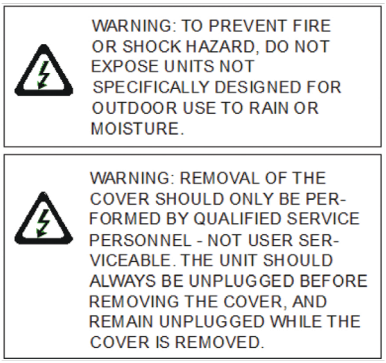
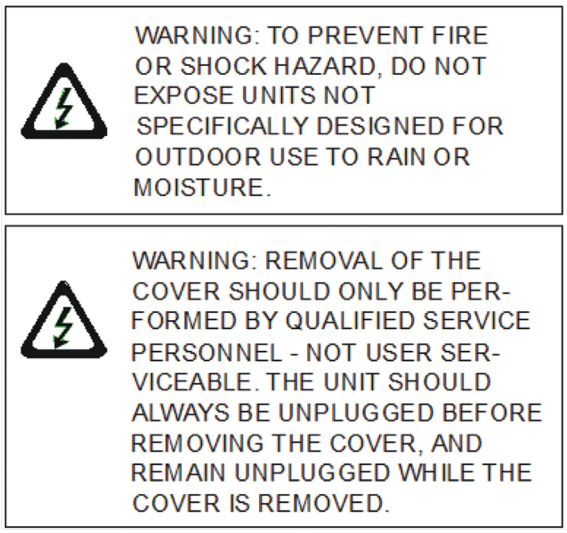
PAM245 COMMERCIAL MULTI-ZONE AMPLIFIER

INSTRUCTION MANUAL





PRECAUTIONS

1.Unpacking

After removing the amplifier from the carton, inspect for any exterior damage to the unit. If damage is noted, notify the carrier at once so that a claim can be justified. Save all packing material. This is important when the claim is processed.

2.Ventilation

To offset heat generated by the unit, it is necessary to provide ample ventilation around the unit. Avoid blocking or impeding the ventilation holes on the unit. To prevent unnecessary problems, install the unit in a place free from any vibrations, direct sunlight, humidity or dust circulation.

3.**Prevent liquids or other materials to enter cabinet**

If the unit gets wet or any foreign material enters the amplifier cabinet, immediately disconnect the AC power cord and consult your dealer or qualified technician.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions completely.
2. Keep these instructions for future reference.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block ventilation openings. Install in accordance with instructions.
8. Do not install on or near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
9. Do not defeat purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider that the other. A grounding type plug has two blades and a third grounding prong. The wide blade and the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles and where connected to the apparatus.
11. Only use the attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
16. **WARNING –** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
17. **CAUTION –** Use of any controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

THANK YOU!

We at OSD Audio thank you for your purchase of our PAM245 amplifier. The PAM245 is an energy efficient Class D amplifier line.

We have taken our customers' input and created the perfect amplifier for almost any application. In addition to the great features you've come to expect in a OSD Audio amplifier, the PA series has ample inputs, an included IR-remote control, an RS232 input for integration with control systems, front panel locking capability, and includes all rack-mounting hardware.

With a stylish appearance and all these additional features at a price similar to previous generation amplifiers, the PA series is sure to become your go-to amplifier.

Please review this checklist of components to make sure you received all items with your amplifier:

Inside the box (PAM245)

- One amplifier
- One product manual
- One IR remote control (Battery included)
- One set of rack mounting hardware including two (2) brackets
- AC Power Cord

Please make sure you have all accessories and your box and unit did not suffer any noticeable damage during transit prior to connecting your amplifier.

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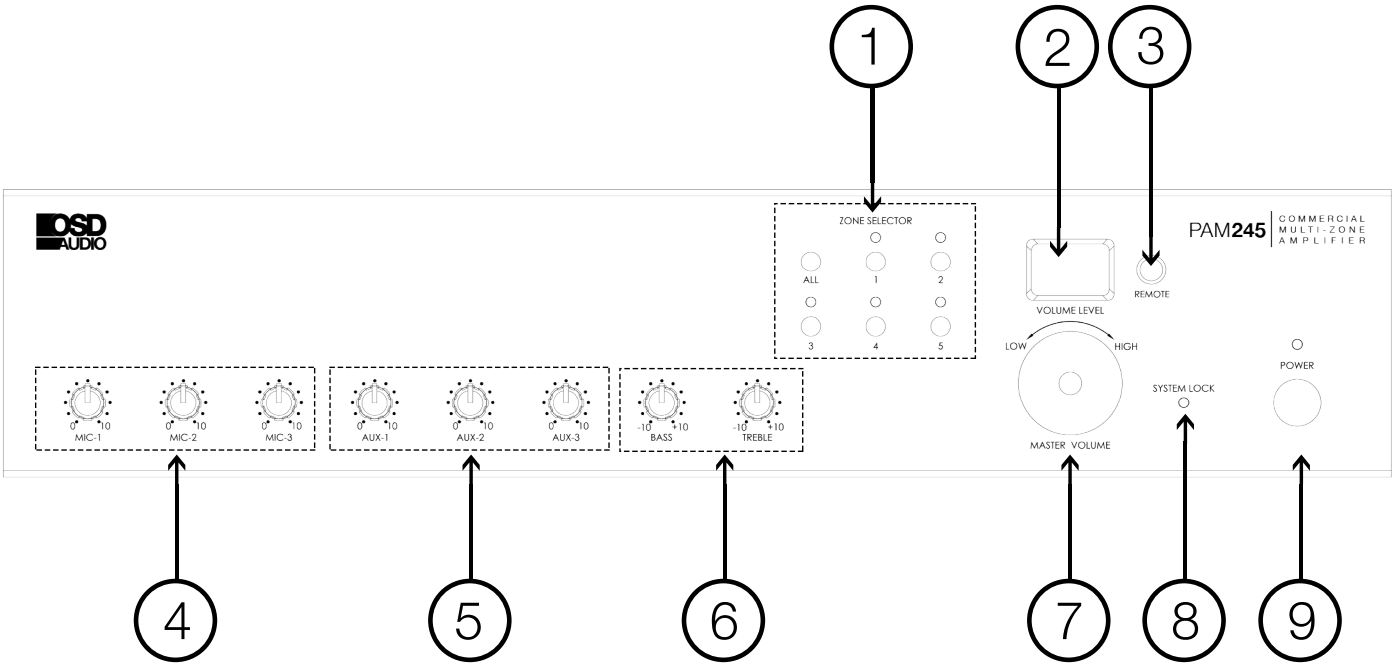
SECTION 1: FEATURES AND SPECIFICATIONS

- 240W RMS/480W Max Power
- AC 100-240V, 50/60Hz
- 3 XLR Microphone inputs with selectable 48 volt phantom power (Mic 1 has selectable priority)
- Telephone paging input
- Music on hold output
- 5 zoned speaker outputs (70V)
- Non-zoned 4/8 Ohm output
- RCA or XLR line output
- Front Bass and Treble controls
- Individual volume control for each input
- Master digital volume control
- Digital front panel lock
- RS232 input for integration with popular control systems

SECTION 2: CONTROLS AND CONNECTIONS

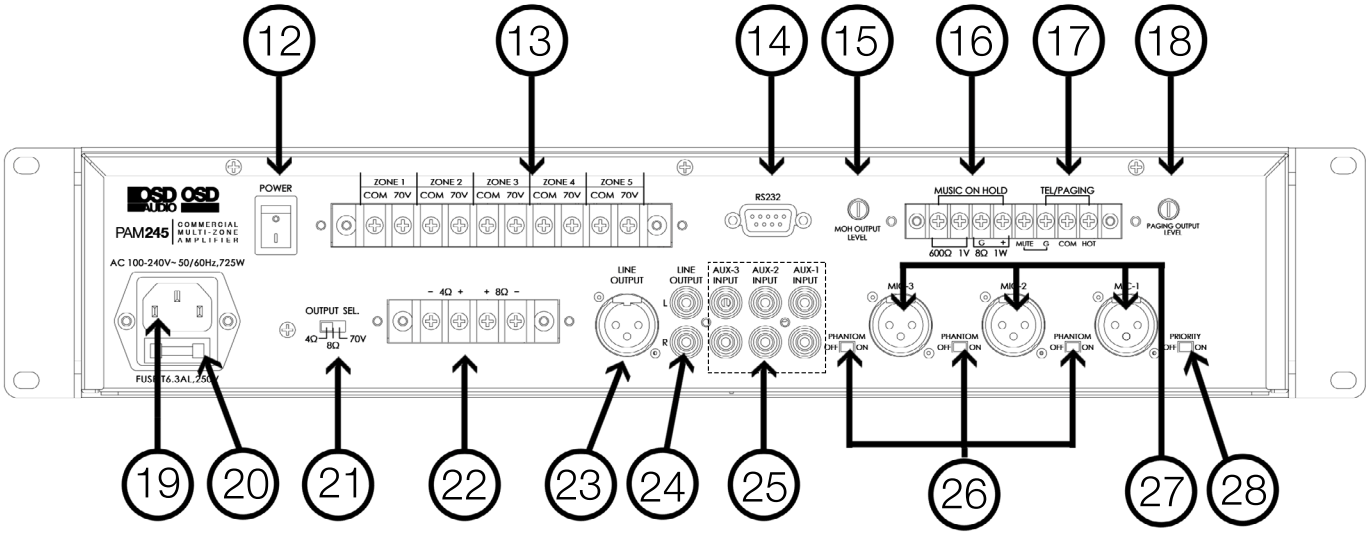
FRONT PANEL



1) Zone Selector:
   a. Turn specific speaker runs on or off, either via buttons on front panel or through IR remote control.
   b. If a zone is turned on, the LED above the zone button will illuminate.

2) Volume Level Indicator:
   a. This display will indicate the level of volume of the amplifier.
   b. Volume can be changed either using the Master Volume Knob (#9) or by using the IR remote control
3) IR receiver:
   a. Aim your IR remote control at this window to control the amplifier.
   b. Range of the IR remote can be extended by using an optional IR repeater.
4) Microphone Volume Control Knobs:
   a. Turn the knob left to decrease the microphone volume relative to other inputs.
   b. Turn the knob right to increase the microphone volume relative to other inputs.
5) Auxiliary Input Volume Control Knobs:
   a. Turn the knob left to decrease the AUX input volume relative to other inputs.
   b. Turn the knob right to increase the AUX input volume relative to other inputs.
6) Tone Controls:
   a. Turning the Bass knob left or right will increase or decrease the bass of all inputs.
   b. Turning the Treble knob left or right will increase or decrease the treble of all inputs.
7) Master Volume Knob:
   a. Turn the knob to the left to decrease the volume of all inputs and sources.
   b. Turn the knob to the right to increase the volume of all inputs and sources.
8) System Lock Indicator:
   a. This amplifier comes complete with a feature that will lock the functions of the front panel so that only the IR remote can control the amplifier.
   b. This is useful for when the amplifier is installed in a public area and unauthorized personnel or customers might have access to the volume, source, etc.
9) Standby Power Button:
   a. This button will enable the amplifier to enter and exit standby mode.
   b. When in standby mode, the LED light above the button will illuminate.

REAR PANEL



12) Main Power Switch:
    a. This switch will completely turn the amplifier power on and off.

13) Commercial Speaker Zone Outputs:
    a. This amplifier comes complete with both constant voltage and constant impedance outputs. Only one type of output may be used at a time. Attempting to use both simultaneously could damage the amplifier and/or speakers and would void the warranty.
    b. 5 outputs are provided to make speaker wiring easier and to allow for distribution of speakers into groups.
    c. In conjunction with the buttons on the front panel (#2), audio can be turned on and off to these zones.

VERY IMPORTANT: Make sure commercial audio principles are followed and the proper speaker types are wired to the proper outputs. Putting the incorrect speakers on the incorrect output can damage your speakers and/or amplifier and is not covered under warranty. If unsure, please contact a professional.

14) RS232 Connector:

a. This connection allows the amplifier to be controlled by a remote source, such as a third party automation system.

b. Programming instructions are available upon request. Please contact the OSD Audio Technologies Technical Support department.

PLEASE NOTE: For Music-on-hold and Telephone Paging, please refer to the instructions of your PBX or telephone paging system for proper function. These are simply passive inputs that allow for either music to be fed into the phone system for audio while callers are on hold, or for using the features of the phone system to send a page via a specific output on the phone system. Installation instructions vary widely by manufacturer. If unsure, please contact a professional.

15) Music-on-hold (MOH) Volume Knob:
   a. This knob will allow you to adjust the volume of the MOH output.
16) Music-on-hold (MOH) Output:
   a. These terminals allow output of the amplifier's audio to another source, such as a telephone paging system.
      i. 600 Ohms/1V
      ii. 8 Ohms/1W
17) Telephone Paging Inputs:
   a. These inputs will allow you to utilize your amplifier with a telephone paging system for purposes of paging.
18) Telephone Paging Volume Knob:
   a. If connected to a phone system, this will allow adjustment of the incoming audio.
19) AC Power Inlet:
   a. Connect your included power cord here, carefully following all safety instructions.
20) External Fuse:
   a. T6.3AL, 250V fuse can be replaced here.
21) Zone Output Switch:
   a. Change the format of the outputs between the 4 Ohms/8 Ohms single output and the 70V zoned outputs.

VERY IMPORTANT: NEVER switch output while amplifier is active.
NEVER switch output and power amplifier if incorrect speakers are connected to the output.
Damage can occur to the amplifier and/or speakers and the warranty will be void. If unsure, please consult a professional.

22) Single-Zone Constant Impedance Outputs
    a. This amplifier comes complete with both constant voltage and constant impedance outputs. **Only one type of output may be used at a time. Attempting to use both simultaneously could damage the amplifier and/or speakers and would void the warranty.**
    b. This amplifier offers single-channel 4 Ohms and 8 Ohms outputs.

23) XLR Line Output:
    a. Utilize this XLR output to connect the amplifier to a booster amplifier with a matching input.

24) RCA Line Output:
    a. Utilize this RCA output to connect the amplifier to another amplifier with RCA inputs to daisy chain amplifiers.

25) Auxiliary Inputs:
    a. These inputs accept right and left channel RCA inputs.

26) Phantom Power Switch:
    a. This amplifier provides phantom power to the appropriate microphones.
    b. This switch will turn the phantom power feature on and off for each microphone input.

27) Microphone Inputs:
    a. This amplifier has three XLR microphone inputs.
    b. To expand the number of microphone inputs on this amp, we suggest using an external mi crophone mixer.

28) Priority Paging Switch
    a. Activation of this switch will allow any microphone connected to MIC1 to take priority.
    b. This means that when a page is made from a microphone connected to this input, all other audio sources will be temporarily muted.

SECTION 3: REFERENCE INFORMATION

The following information is provided for reference only. Please consult a professional if unsure about any aspects of commercial or residential installations.

SPEAKER CONNECTION

The rear panel of the amplifier contains 5, zoned speaker connections.

BE SURE TO CONNECT SPEAKERS PROPERLY, see line voltage instructions below.

The speaker lines are to be connected directly between the appropriate COM terminal on the terminal strip and the terminal corresponding to the impedance of the speaker(s).

Connect the cables to the terminals on the screw terminal strip provided. Use the screw terminals which correspond to the proper polarity of the speaker(s). One lead must always be connected to the COM.

IMPORTANT NOTICE: When 70V constant line voltages are used, a line matching transformer must be used with each speaker. All transformers must be connected in parallel.

ALWAYS CONNECT LINE TRANSFORMERS IN PARALLEL, NEVER CONNECT IN SERIES

SPEAKER IMPEDANCES

Speaker terminal taps for 70V constant line voltage are provided on the rear panel of the unit. To connect the power output directly to a speaker or PA horn or a combination of speakers and/or PA horns, connect to the COM and (+) terminal on the strip. Be sure the speaker(s) or PA horn(s) can handle a reasonable power output from the amplifier or permanent damage to the speaker(s) or PA horn(s) may result. Also, be careful not to overload the amplifier with too many speakers or PA horns. If it is desired to use a number and variety of speakers, the speakers must be arranged in various series or parallel arrays to provide proper impedance matching. 70V constant line voltage must be used (parallel connection only). If you are not familiar with impedance matching, consult a professional installer or technician for advice. If 70V constant line voltages are used, a line matching transformer must be used with each speaker. Again do not overload or use incompatible speakers. Line transformers are the preferred method for multi-speaker installation.

CABLE REQUIREMENTS

Output cabling need not be shield in most case and should be of sufficient gauge to minimize losses due to the
resistance of the wire over long runs (insertion loss). Cable thinner than 18 gauge AWG is not recommended. Long runs require 16 gauge AWG or heavier.

In some cases where the output cable is run in close proximity to unshielded intercom cables, electrical cables, radio transmission antennas or other sources of interference, or when the amplifier is being used for paging from a telephone system, the amplifier may require shielded output cabling to prevent audio feedback or interference.

PRIORITY PAGE

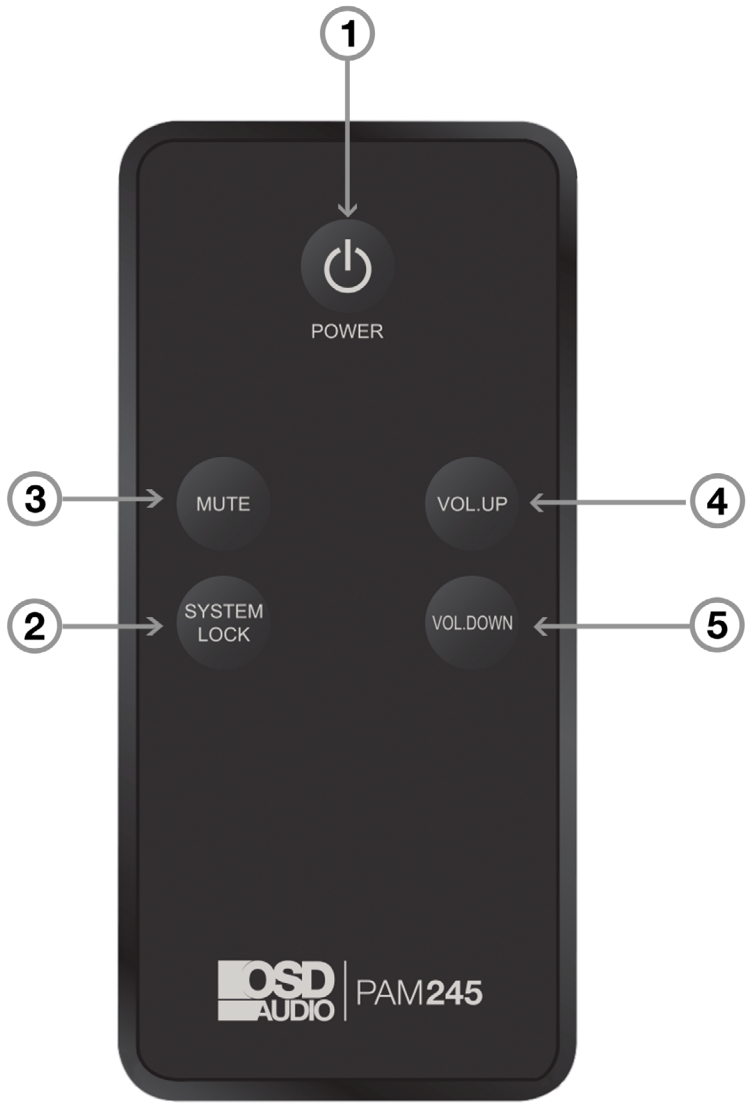
The amplifier features a voice activated priority page circuit and automatically mutes all program material (Auxiliary, Module, Microphone, etc.) from the amplifier's output, and permits MIC 1 and the TEL input to override for paging announcements.

SECTION 3: REFERENCE INFORMATION

TELEPHONE LINE
A telephone line input of 600 Ohms is provided. For phone systems with this feature, a Music on Hold output is also available.

WHENEVER IN DOUBT ABOUT INSTALLATION, CONSULT WITH A PROFESSIONAL INSTALLER OR TECHNICIAN. OTHERWISE, PERSONAL INJURY, DAMAGE TO THIS AMPLIFIER AND/OR SPEAKERS MAY RESULT AND YOUR WARRANTY MAY BE VOID.

SECTION 6: IR REMOTE CONTROL



1. Power - Turn amplifier on and off
2. System Lock - Lock front panel so that only the remote can change volume, source, etc.
3. Mute - Silence audio on amp
4. VOL UP
5. VOL DOWN

WARRANTY & REPAIR

OSD AUDIO electronics have (2) year Limited Warranty against defects in materials and workmanship. Proof of purchase must accompany all claims. During the warranty period OSD AUDIO will replace any defective part and correct any defect in workmanship without charge for either parts or labor.

OSD AUDIO may replace returned electronics with a product of equal value and performance. In such cases, some modifications to the mounting may be necessary and are not OSD AUDIO's responsibility.

For this warranty to apply, the unit must be installed and used according to its written instructions. If necessary, repairs must be performed by OSD AUDIO. The unit must be returned to OSD AUDIO at the owner's expense and with prior written permission. Accidental damage and shipping damage are not considered defects, nor is damaged resulting from abuse or from servicing performed by an agency or person not specifically authorized in writing by OSD Audio.

OSD AUDIO sells products only through authorized dealers and distributors to ensure that customers obtain proper support and service. Any OSD AUDIO product purchased from an unauthorized dealer or other source, including retailers, mail order dealers and online sellers will not be honored or serviced under existing OSD AUDIO warranty policy. Any sale of product by an unauthorized source or other manner not authorized by OSD AUDIO shall void the warranty on the applicable product.

Damage to or destruction of components due to application of excessive power voids the warranty on those parts. In these cases, repairs will be made on the basis of the retail value of the parts and labor. To return for repairs, you must email customer service at RMA@OSDAUDIO.com for a Returned.

Merchandise Authorization (RMA) number then the unit must be shipped to OSD AUDIO at the owner's expense, along with a note explaining the nature of service required. Be sure to pack the product(s) in a corrugated container with at least 3 inches of resilient material to protect the unit from damage in transit.

This Warranty Does Not Cover: Damage caused by abuse, accident, misuse, negligence, or improper operation (installation) • Any products that have been altered or modified • Any product whose identifying number of decal, serial #, etc. has been altered, defaced or removed • Normal wear and maintenance.

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